



COLORADO SPRINGS,  
COLORADO

APRIL 1989

PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.  
P.O. Box 16521  
Colorado Springs, CO 80935

FIRST CLASS MAIL

NEW MEETING TIME  
7:00 P.M.



# Ø BEAT



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\* denotes the first year of a two-year term.

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The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at the Hewlett-Packard facility, at the intersection of Lexington and Union, at 7:30 p.m. All amateurs and interested parties are invited to attend.

Editor: Keith Goobie NYØT, 5335 Coneflower Ln., Colorado Springs, CO 80917 637-1525

## HAVE YOU PAID YOUR DUES

by Jim WA9ABB

Have you paid your dues? No, not to the PPRAA, or repeater association, or ARRL. These dues are for the privileges we enjoy as amateur radio operators. If our licenses depended on these dues, 90% of us would be off the air. If it were as simple as money, most of us would just pull out the old checkbook. The best way to pay your dues is participation in public service activities and promotion of amateur radio as a hobby. Our club provides many opportunities in these areas. If your electric bill is not paid, the utility company disconnects the service. If the FCC and general public decide our "dues" have not been paid, they may "disconnect" our hobby.

There has been much controversy lately in the ham radio magazines and over the air concerning code vs no-code amateur licenses. One of the biggest arguments for a no-code license is to increase the number of amateurs. Perhaps this is what it will take to get more people into the hobby. But, if each one of us would recruit just one new ham, we could double the amateur population in one year. I enjoy CW operation, but do not oppose a no-code license. There are many good people who could contribute to our hobby without knowing more code. Some hams have expressed a fear that a no-code class licensee would deteriorate into another C.B. fiasco. (Have you listened to 75 meter phone lately?) That would only happen if we isolate no-code hams and treat them as

a sub-human life form. In the event that the no-code license becomes reality, welcome the new comers and make them a part of our fraternity. Many of them will ultimately upgrade to higher class licenses to more fully enjoy the hobby. In any event, if it is to be, let us make the most of the opportunity and not sit around moaning and groaning and crying in our beer about the "good old days".

P.S. Are your dues paid?

73's Jim WA9ABB

## MONTHLY CLUB MEETING

The next regularly scheduled meeting of the Pikes Peak Radio Amateur Association will be held at the Hewlett Packard facility at the intersection of Union and Lexington Boulevards. Details directions may be obtained from any Board member. Please note that the meeting time is at 1900 hrs (7 pm). This month's meeting will be on 12 Apr 89.

This month the program will be on paging systems and how they work. They are often cursed by some VHFers for the intermod that they contribute to producing.



# "THE VIEW FROM THE PEAK"

by George Hinds, N8CIX

## SOME FOOD FOR THOUGHT...

I've been reading in amateur newsletters and magazines about the future (maybe, maybe not) of amateur radio; of some form of a "no-code" license; of the need for rapid growth in our ranks; of the need to truly occupy our bands with activity. Of great significance: I've also noticed mention of the coming once again of a WARC meeting in 1993. If you're concerned about the future of amateur radio, the thought of such a meeting should make you bite your fingernails off to the elbow!

Many countries, and certainly most third-world countries, consider amateur radio to be either an insignificant hobby or, even worse, a hangout for those seeking to spy upon peoples and governments. The idea of "personal communications" is unacceptable to them. Tyrants and dictators want frequencies for propaganda, not for ham radio. Nothing would please this block of nations more than to have amateur radio lose more, if not all, of the spectrum allocated to us. They have voting power; it will not likely be in favor of amateur radio.

It's my understanding that, besides VHF and UHF bands being on the chopping block at the coming conference, the top half of 80 meters, all of 40, and part or all of 160 are up for grabs. So for those hams who get their kicks from telling others they aren't the least concerned about the loss of VHF/UHF, now they, too, will have something to think about as far as "their" HF bands are concerned.

One point seems certain: Japan, with about four times (1.6 million) the number of amateurs as in the States, will likely have more clout than most.

## TELLER CO. AMATEURS LOSE ANOTHER "SOLID CITIZEN" SO FAR THIS YEAR...

Major Walter Brown, USAF (Ret.), whose amateur call was K0UAB, passed away at his home in Woodland Park on Wednesday, March 15th, after a protracted illness. Walt had been a member of the Mountain ARC for several years, joining when he and his wife Charlotte moved there from Iowa upon his retirement from the Iowa Highway Department. He was a B-17 pilot in World War 2 and also saw active duty again during the Korean War.

Burial service was conducted with military honors at the Air Force Academy in the Community Chapel; interment was later at Fort Logan Military

Cemetery in Denver.

A side note: Just before services began at the chapel, some of us from Teller Co. were driving into the Academy and chatting on .52 as to finding the correct chapel. Jim, WA9ABB, luckily for us was listening on his HT and steered us in the right direction. When he had to leave the frequency for a moment, Al, N0CMW, took over for final approach. Thanks to those fellows, we all made it to the church on time... And to top it off, Jim found time in his busy schedule to come to the chapel for the services and to pay his respects to a fellow amateur...

## PUBLIC RELATIONS - SOMETIMES YOU HIT A HOME-RUN!

Recently the occasion presented itself to write a short article for the local paper to tell folks about amateur radio classes coming to the high school. It was printed and that was fine. What was better, though, was the effect of that article on the editor: he sent over a reporter and photographer to get a feature story on ham radio. In order to insure accuracy, it was easy to prepare an article in advance. As a reporter, what questions would you ask? As an amateur, what answers would you give? Bingo! At the interview, the already-prepared article was handed to the reporter as "background". The net result: a full front-page and two-thirds of page three in the feature section of the weekly paper. The point of this story: you, too, can do it and get neat, accurate publicity for your club and amateur radio. For if we don't "blow our own horn", who will? (If you'd like a copy for reference, let me know.)

## DID YOU KNOW THAT...

In Japan where a no-code class of license has resulted in phenomenal growth for amateur radio, they do not adhere to the clause in the rules that bars a "codeless" amateur, limited to 10 watts power, from HF. Why? There is an "escape clause" in the ITU rules that permits any radio spectrum operation that does not cause harmful interference to other countries. No nation has ever complained about the operation of Japan's no-code amateur class of operators.

## AND, IN CLOSING...

It's appropriate to say "farewell, good friend" in this issue to Editor Keith Goobie, NY0T (VE3PDD) as he moves on in his career to another call area. As a fellow "Canuck" from long, long ago, it's been fun working with Keith and his predecessor, Phil, VE1ARC. Just hearing them say "about" for "about" is uplifting to my spirit... Thanks, Keith, for the many times you offered help and advice to this writer when I was about to be drowned in computerese and modemitia.

73, George, N8CIX

## El Paso County Tower Ordinance: Update

Action for the proposed tower ordinance has been suspended for the time being. The proposed ordinance has NOT been scheduled for hearing before the Board of County Commissioners as of this date.

The county Land Use Department has delayed sending the proposed ordinance to the county commissioners due to perceived problems with the "half mile limit" provision of the ordinance. It seems that they have begun to realize the tremendous logistical and bureaucratic problems that will ensue if the "half mile limit" is adopted in the ordinance. The problem revolves around verifying whether a proposed private tower IS or IS NOT within one-half mile of another tower.

The land use department has suggested that the amateur tower committee may be asked to meet again to help resolve the problem. On March 30th, Mark Gebhardt of the county land use department suggested that there seems to be three alternatives for solving the problem:

- 1) Have the county conduct a survey of all towers in the county to determine what they are, height, and type of use. [No doubt a very expensive undertaking and a tremendous and unnecessary waste of taxpayer funds].
- 2) Conduct a survey of towers on a joint cooperative basis with the county and the amateur cooperating to get the job done [Both Lauren, KX00, and I have suggested to the county land use department in the strongest possible terms that the amateur community is unlikely to cooperate in such a venture].
- 3) Have the applicant for the tower special use permit be responsible for conducting the survey to verify whether other towers are within a half mile. The county is unlikely to be compelled to verify the accuracy of the applicant's information, thereby consuming county and taxpayer resources [This option is very undesirable since it imposes considerable expense and burden on the applicant seeking a special use permit].

Lauren, KX00, and I have strongly suggested that there is a more desirable fourth alternative. **DROP THE HALF MILE LIMIT FROM THE ORDINANCE.** That is an easy and simple solution to the problem.

At this point the proposed tower ordinance has NOT been scheduled for presentation to the Board of County Commissioners. Mark Gebhardt of the County Land Use Department suggested that the

earliest the ordinance could come before the county commission would be in early May.

I have received information that some county commissioners have heard from you already concerning your views on the proposed ordinance. I **URGE YOU** to continue making political contacts and to exert pressure for your position and views on the ordinance. This sort of activity is the best way to get what you want at this point.

The tower committee will keep you advised regarding the status of the ordinance via a note in a future #Beat and through announcements on the 146.97 repeater.

Hal, W0MXV 3/31/89

### SEVERE WEATHER TRAINING -- ADVANCED CLASS REMINDER

During severe weather conditions, amateur radio operators trained as weather spotters provide observations to the National Weather Service which can lead to the timely issuance of appropriate severe weather warnings. Each year, the National Weather Service conducts training sessions for interested amateurs to enable them to better understand factors which can lead to severe weather and how to recognize their onset.

The first of this year's two training sessions was conducted by Herb Moore of the National Weather Service on March 12 for those who had not been previously trained and a total of 17 amateurs attended this session. KA0RLS, better known to many as Mark Murray, the Weekend Weather Anchor for KKTU (Channel 11), joined us to voice his support for amateur weather spotter services and to emphasize the need for accuracy in reports.

The second session will be held on April 16 beginning at 1pm in the Civil Defense room in the basement of the Colorado Springs Police Department headquarters on Kiowa Street in downtown Colorado Springs. Flash floods, and Herb has a new video tape which spectacularly illustrates the power of flash floods.

For further information on these and other emergency related amateur radio communications, El Paso and Teller county amateurs are encouraged to check in to the Amateur Radio Emergency Service net conducted weekly on the PPFMA 146.97/37 repeater at 6:30pm local time each Wednesday. For specific questions related to the upcoming class or severe weather operations, I can be contacted weekdays at 548-2045, evenings and weekends at 260-1318.

Dave Banks, N5ION,  
Severe Weather Net Manager.

## NO CODE - ???

BY KD6SU

Last month I promised to give you the results of my informal survey concerning a no code license. I guess that I was optimistic in expecting a response to my request. I can honestly say that the responses I received were evenly divided for and against a no code license. Unfortunately I only received four cards back in the mail. To those of you who responded, I thank you for taking the time to voice your opinion.

While I realize that my informal poll isn't going to affect anything, I think it brings out a point. I think many Hams don't care whether there is a no code license or not. It also seems to me that many of the Hams that now have a license don't care whether anyone else gets a license or not. Maybe that is why we see so little growth in Ham radio today. More of us should be out there trying to get others involved in the hobby. I realize that we all can't teach classes, but when was the last time you tried to encourage someone to enter our exciting hobby. We can't expect the ARRL to do it all for us.

While I still advocate a no code entry level license, I think there is probably more to getting people interested than that. It will take work on our part to get out and spread the word about what Ham radio can do. We live in a high tech world, and the idea of talking around the world on a radio just isn't as exciting as it was 25 years ago. We have to let people know we are past the spark gap era and are doing some pretty high tech things ourselves. I challenge every one of you to bring a new person in to Ham radio this year. Just think what we could do if we did that for just five years! Then we would see some real growth in our hobby and the FCC would be hard put to take away any more frequencies because of non-use.

Rick KD6SU

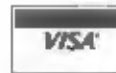
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### SWAPFEST SCHEDULE

May 20, 1989, PPRAA Swapfest, Sponsored by the Pikes Peak Radio Amateur Association, Rustic Hills Shopping Centre, Colorado Springs, CO, Contact Al NØCMW 473-1660.

June 10, 1989, Superfest, Sponsored by the Northern Colorado ARC, Larimer County Fairgrounds, Loveland, CO, Contact NØDZA or WØITD.

July 8/9, 1989, Wyoming Hamfest, Holiday Inn, Cheyenne, WY, Contact N7JJY.

July 16, 1989, Denver Radio Club Ultimate Swapfest, Sponsored by the DRC, Jefferson County Fairgrounds, Golden, CO, Contact WJØG or Chauncey, NØHHE.

Sept 24, 1989, BARCFEST, Sponsored by the Boulder ARC, Boulder County Fairgrounds, Longmont, CO, Contact Dave WBØZID.

Oct 7, 1989, ARRL Computer Networking Conference, Colorado Springs, CO, Air Force Academy, Contact Andy NØCCZ.



## THE FUTURE OF AMATEUR RADIO

(how's that for a colossal title!)

There has been a lot of talk lately about introducing a new, no-code, amateur license. I don't want to minimize the importance of no-code to the growth of amateur radio, but I think there are a few other factors which must share the blame for the lack of growth in our ranks. Some of those factors include:

1) Lack of places to operate. Through the 1960s, it was fairly safe to assume that, if you had a steady job, you could own your own home, and install as many antennas as would fit on your lot. Those hams who lived apartments in our largest cities generally had no trouble obtaining permission to install their antennas. In 1989, this is no longer the case. Especially in the larger cities and their suburbs, home ownership can be out of reach for many would-be amateurs. Few apartment buildings allow efficient antenna installations. And, especially in California, local zoning regulations severely restrict the installation of antennas, even if you do own the property. What this does, in effect, is lock many younger amateurs out of some of the most attractive areas of amateur radio: DXing and weak-signal VHF work. Sure, you can work a few DX stations with 100 watts and a 10-meter dipole; and you can work 20-30 grids on 2 meters with 75 watts and a 4-element Yagi on the patio; but you'll lose interest rapidly when you keep getting clobbered by stations with 50' towers and antenna installations you know you'll never have.

2) No (or virtually no) YL's. Seriously. Women make up 50% of the population (actually, slightly more than 50%) but virtually none of the amateur population. By not recruiting female amateurs, we're ignoring half of all potential hams.

3) Boring & inane QSOs. Have you tried to have a contact on 75 or 20 meter phone lately? Seems most evenings, unless you're a member of an established net, or have asked, you'll never make a QSO on these bands. I don't think I've ever heard anyone call CQ on 75 meters. (except during a contest!) 2 meters can be almost as bad- what kind of an impression of the hobby does a newcomer get when all they hear is retirees complaining about their health, and 11 meters?

4) RFI. Again, through the 1960's, the amateur had two home appliances to worry about: the TV set and the AM radio. At the time, these appliances were generally on metal chassis and used tubes, and were relatively easy to RFI-proof: the amateur with a clean transmitter could generally completely lick TVI and BCI without too much effort. Today, TVs

and radios are generally built on PC boards and mounted in fake wood cabinets. Often, the largest single piece of metal in the set is the prongs on the power plug. Solid-state devices, despite their many advantages over tubes, are considerably more able to rectify stray RF. Stereo systems, with their long speaker leads, provide an excellent place for RFI to occur. In real terms, radios and TV sets are much cheaper than they were in the 60's; so most households have several. There's been an explosion of other home electronic devices; everything from carrier-current remote controls to VCRs to microwave ovens. And the growth of cable TV (and their use of certain VHF ham bands to carry their programs) hasn't helped. Many a modern amateur has voluntarily left the air, at least temporarily, because a defectively designed piece of home electronics has picked up their signals, and resulted bad feelings in the neighborhood. In some cases, the QRT has been forced, either by lawsuits (VE3SR), or by the regulatory agency itself. (FCC) Amateurs have had their stations sabotaged and antennas destroyed over RFI, and in one case, it's alleged that an amateur was "murdered" in a RFI dispute!

Previously I hit upon factors, besides the code requirement, that I think are restricting the growth of amateur radio. Now, I'm going to suggest some possible courses of action.

1) Lack of places to operate. This is one place where the Eastern Block countries are way ahead of the U.S.. Plenty of well-equipped club stations provide a place to operate for those amateurs who are unable to install a station of their own. In this country, club stations could easily be financed by most established clubs. Clubs could either purchase some rural land and have the membership assist in the construction of the station building, or they could lease space in an industrial park or office building. Club members could pool their resources to provide a wide variety of equipment and antennas, for all types of amateur communication, which would then be available to all club members.

2) No YLs. Basically, we need to watch ourselves on the air, in club meetings, and at hamfests. Too many amateurs behave in a blatantly sexist manner in public or in QSO- this reinforces the hobby's image as a "good-old-boy's network", and leaves potential female amateurs, as well as some younger male would-be hams, uncomfortable.

3) Boring & inane QSOs. We need to welcome breakers into our QSOs, and try to call CQ more often on 75 and 20 meters. (as well as answering those folks daring enough to try a CQ themselves) Nets (especially on 75 meters) should avoid the roll-call method; this makes the newcomer feel unwelcome in a real hurry!

4) RFI. The ongoing 220MHz affair has shown

## AMATEUR RADIO LICENSE EXAMINATIONS

**WHEN:** Sat, 13 May 89 at 9:00 AM  
**WHERE:** Chapman College  
 Flintridge and Academy  
 Colorado Springs, CO  
**WALKINS:** Allowed  
**TALK-IN:** 146.37/97

### NEEDED

1. Original FCC license, if any
2. A copy of your FCC license, if any
3. Two forms of positive identification (driver's license, birth certificate, passport or library card)
4. \$4.75 check or M.O. payable to ARRL/VEC
5. Completed FCC form 610
6. If physically handicapped, a physicians certificate describing the nature of the disability. Arrangements should be made prior to testing

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For more information contact:  
Max Stafford 488-9289

the power of thousands of hams equipped with typewriters and postage stamps. If we could put the same effort into petitioning the FCC to use their statutory power to regulate RF susceptibility, and, if necessary, petitioning Congress to put the necessary pressure on the Commission, we might be able to win a major victory here. It might well be possible to obtain assistance here from the Society of Broadcast Engineers, and possibly other broadcasting organizations as well. We should also attempt to get the FCC to ban CATV systems from using amateur frequencies (this would reduce QRM "from" cable TV "to" amateurs as well), or at least require disclaimers, either in CATV bills or broadcast on the channels themselves, to ensure the subscribers know their TV service is "secondary" on those channels. Publicity will also help here. Amateur groups should consider selecting a particularly qualified member, and offering their services to local radio and TV talk shows, and newspapers, to explain what RFI is, and why it usually isn't the transmitter's fault. In the process, you could probably get a few good words on about the amateur service itself.

Think about it! Any rebuttals/support/etc. appreciated!

73, Doug W9WI@W9WI-1, Madison, Wis.

# OEM PARTS

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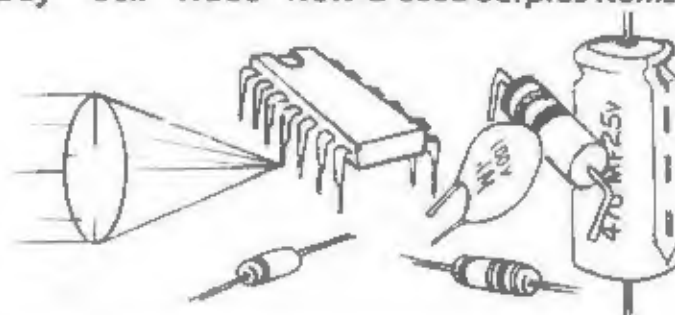
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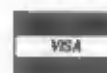
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Paul KDO50

Editors Note: This article was published incompletely and without supporting diagrams in the Jan and Mar editions. To do justice to the author, the article is published here in its entirety and with supporting diagrams.

As a Senior Field Engineer, I have over the years past, come across some unique situations. Many Contracts I have worked on, have almost always excluded cables, as part of the Maintenance agreement. On many occasions the situation of maintenance requirements comes to the point of, "Prove it's not the terminal equipment." Now that means you will find fault in the cable and then fix it, to show you were right.

How does this situation start anyway? (customer), "The cleaning person moved the equipment." "I don't know, it just doesn't work, when I send something to it."

It may not be as obvious as, the wires hanging out the back of the connector, Customers will often times pull the wires out, then stuff them back into the opening from which they came. This to preclude getting billed.

In this article I want to address the RS 232 "Serial Interface;" and how to put one back together. First of all don't be alarmed, when you come upon things like this. There are simple solutions and you will only need some 10 minutes or so to put the wires back to where they belong. Second of all, you will mostly be dealing with two types of connectors. A. The "DB" type. In some cases seven pin, or 15 pin, or the infamous, 25 pin connectors. B. The "Centronics" type connector, here the wires are soldered to the back of the pins as opposed to the DB, style of connector where one can clamp on new pins and insert them into the connector holes, as required.

O.K. where does pin #6 go, and what does it do? What's a DCE and DTE? What does EIA standards call for? Before we go any further, Lets begin at the start.

First of all, we need to define some of the words (BUZZWORDS), we use so freely. "EIA" Electronic Industry Association. They have set a standard in the industry by which all companies go, so as to get an acceptable norm, for various interfaces. "Interface" A device or series of devices, (cables, connectors etc.), by which a piece of equipment, or (peripheral), may be hooked to another device, ie, a computer. RS 232 is a set of guide lines specified by the EIA, to permit communications devices, to be hooked up, in a computer environment. "DTE" Data Terminal Equipment. A device or machine that originates and/or receives digital data, such as a computer. "DCE" Data Communications Equipment. A device or machine, that acts as a terminal, or terminates digital data signals, ie, Telephone modem, printer etc. Now that we have digested some of the Buzzwords, lets look at what the standards definitions

are.

1. Mechanical characteristics of the interface
2. Electrical signals within the interface.
3. Functions of the signals themselves.
4. Secondary Functions for special applications.

As most of you may have already suspected, Function 4, is not normally used. We will define them for you on shortly. It's nice to know but not required data.

O.K. EIA RS232C Mechanical standards specify:

1. Assignment of signals to connector or pins.
2. Female pins in the DCE connector
3. Male Pins in the DTE connector
4. Maximum cable length is to be 50 feet. (you can cheat here with heavier wire for example, use #18 or #16) with #16 you can reach a 125 feet easily
5. Maximum cable capacitance of 2500 picofarads.

RS 232 C is usually referred to as a "SERIAL" port. Voltages on these ports can vary so be careful to use a little common sense here. The maximum levels are usually not more than 25 Volts DC. If you are using a normal 12 Volt DC System, as most systems do, you shouldn't have any problem. Computers use 12 Volt signaling and so does the garden variety of terminal equipment. So no sweat. You really should not have a problem. First, before you attempt to do an interface, With anything, be sure you check the DTE's manual, for a wiring diagram. If not available, this usually works, see fig. A

On the voltages, there is a thing called the transition region, that's where a signal is neither a mark or space. This usually occurs between zero and plus three and minus three volts. So if your signal falls into this region when it should be a high, say plus 12 volts, chances are you have a bad connection or a short has occurred. Worst case is an non-compatible situation, wherein the equipment has loaded down the line. But, look for the first two situations first. If all else fails read the instructions peculiar to your terminal equipment.

All right, lets make those connections, for that interface cable, to the connectors. Equipment ground is Pin 1 to Pin 1. (In most cases this is not done), But for safety sakes, I mention it. We are going to be working with pins one through seven and pin 20, only. True enough you can do it with only four pins hooked up, and the rest on the terminal grounded, but I won't teach that to you in this article and most important of all do it right the first time and preclude voiding the manufacturers warranty. Ok, continuing on with pin 2 DTE "Transmit Data" to pin 3 DCE. Now, pin 3, DTE to pin 2 DCE. Next is pin 4 DTE to DCE pin specified. Then pin 5 DCE to DTE pin specified. Now pin 6 DTE goes to pin 20 DCE. Finally pin 7 to pin 7. In some cases DTR and DSR are jumpered together and are not physically connected to other equipment. Again, always refer to the manual for your wiring guide. The manufacture knows what the equipment needs. If you cross up the wires don't be too concerned. Your first indication will

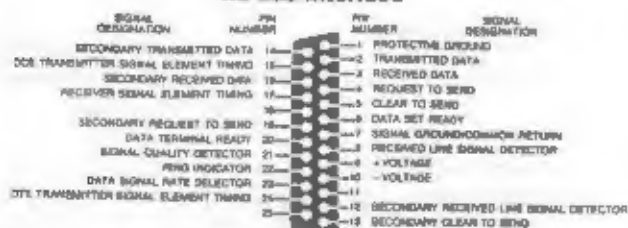


be, it don't work. Always check the interface cable by use of an ohm meter or a light test. A mistake will not cause the equipment to die, in most cases. Take your time, when wiring these cables and double check all your work first, the results will be, it works first shot out of the bag.

Now for those who never get it right. Most OEM's, will have interface cables of an infinite variety, so ask first, if you want to do it the easy way. Hope this helps to shed some light on the world of RS 232 C "SERIAL" port connections.

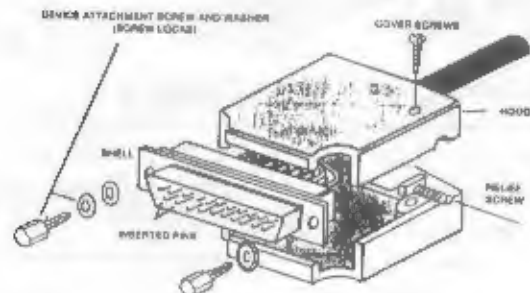
Paul KD4SO

#### RS-232 Interface



#### EIA RS-232/CCITT V.24

EIA PIN	BA- RS-232C SYMBOL	CCITT- V.24 SYMBOL	RS-232C Description	Signal Type and Direction					
				DATA	CONTROL	STATUS	POWER	GROUND	OTHER
1	AA	101	Protective Ground						
2	AB	102	Signal Ground/Comm. Return						
3	BA	103	Transmitted Data	X					
4	CA	104	Received Data		X				
5	CB	105	Request to Send			X			
6	DB	106	Clear to Send			X			
7	DC	107	Data Set Ready			X			
8	DD	108	Data Terminal Ready			X			
9	CE	109	Ring Indicator			X			
10	CF	110	Receiver Line Signal Detector			X			
11	CG	111	Signal Quality Detector			X			
12	CH	112	Data Signal Rate Selector (DSR)			X			
13	CI	113	Data Signal Rate Selector (DCS)			X			
14	DA	114	Transmitter Signal Element Timing (DTE)						X
15	DB	115	Transmitter Signal Element Timing (DCE)						X
16	DC	116	Receiver Signal Element Timing (DCE)						X
17	DD	117	Receiver Signal Element Timing (DTE)						X
18	DE	118	Secondary Transmitted Data	X					
19	DF	119	Secondary Received Data		X				
20	EA	120	Secondary Request to Send			X			
21	EB	121	Secondary Clear to Send			X			
22	EC	122	Secondary Data Set Ready			X			
23	ED	123	Secondary Data Terminal Ready			X			
24	EE	124	Secondary Ring Indicator			X			
25	EF	125	Secondary Receiver Line Signal Detector			X			
26	EG	126	Secondary Signal Quality Detector			X			
27	EH	127	Secondary Data Signal Rate Selector (DSR)			X			
28	EI	128	Secondary Data Signal Rate Selector (DCS)			X			
29	EJ	129	Secondary Transmitter Signal Element Timing (DTE)						X
30	EK	130	Secondary Transmitter Signal Element Timing (DCE)						X
31	EL	131	Secondary Receiver Signal Element Timing (DCE)						X
32	EM	132	Secondary Receiver Signal Element Timing (DTE)						X



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## MINUTES OF MAR GENERAL MEETING

*submitted by Al NOCMW, secretary*

The general meeting of the Pikes Peak Radio Amateur Association was held at the Hewlett-Packard Briargate Facility, Wednesday evening 08 Mar 1988. The meeting was called to order by the president Keith NY0T at 19:00, and followed by the introduction of members and guests.

The minutes of the previous General Meeting and Board meeting were approved as printed in Q-Beat.

### Committee Reports

**Note:** Anyone wishing to help out on any of these committees, please contact the chairman at the phone number listed. Thank you for your support.

### Treasurer - Ron NK6P (593-8352):

Previous balance was \$1123.21, income of \$0362.00, expenses of \$0247.57, leaving a balance \$1237.64.

### Interference - Ron NK6P (593-8352):

Ron was not present. In his absence Keith NY0T stated there was nothing to report at this time.

### Education - Dave N4DIS (531-0633):

The next set of Novice classes will be in the spring. Need another volunteer instructor so that classes can start.

### Publicity - Karen N1EED (495-0091):

Nothing new to report.

### Colorado Council of Amateur Radio Clubs (CCARC) - Oak K0ROL (591-1426):

The next meeting of the CCARC will be Saturday, 11 Mar 89 in Greeley. All are welcome to attend.

### Deaf and Blind School - Jim WA9ABB: (598-7543):

Liddi Pose passed her Novice Test and is now awaiting her licence from the FCC. Working to get her upgraded to Technician. Editor's note: Her call is KB0EBL.

### Q-Beat - Keith NY0T (637-1525):

Trying out new software and the fonts may be a little different. Would appreciate comments.

### ARES - Cliff KB0CVW (550-1447):

Meets every Wednesday night on the 37/97 repeater (W0YNE) at 1830 hrs local.

### Public Service - Mike K6TER (636-1290):

The Walk for Mankind will be April 08 and he has a need for volunteers to provide communications support.

### VE Testing - Max KD8EL (488-9289):

Next test will be May 13 at Chapman College, at the corner of Flintridge and Academy. Max expressed the importance of pre-registering early.

### Old Business:

Dave N8ION mentioned that the Severe Weather Class would be on March 12 for first timers and there was going to be another class for previous weather watcher members on April 16.

### New Business:

Frank N8FS brought up that School District 11 is looking for and would welcome talk on Amateur Radio.

Keith NY0T, filling in for Rick WB7THT (Swapfest Manager), stated that all is running well at the current time. Rick is still looking for something to manage the sale / distribution of tickets for the Swapfest prize. Also, Al NOCMW still has tables available and can be reached at 473-1660.



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Keith NYØT reported that he had been approached by the Pikea Peak FM association, with the idea that the PPRAA and the PPFMA should combine their summer club picnics. After a very short discussion, it was voted in unanimously. The club picnic will be on 6 Aug 89 this year. Editor's note: Mike KØTER has volunteered to head up this effort on the part of the PPRAA.

Max KDØEL, the Field Day chairman, stated that he will need support in setting up for Field Day. Chris NXØB will be heading up the Novice station and any Novice that would like to have their call used is asked to talk to him.

#### Prizes - Rick WBTHT:

In Rick's absence Larry NØAMP sold the ticket for the prizes. All prizes were mystery prizes.

Winners were:

NØHRD-Will-Power Bar/Strip

KEØLZ-Rory-Operator's Manual

NØIKE-Richard-Antenna Parts

KDØNB-EJ-Village Inn Certificate

N1FED-Karen-Cable Tie Straps

#### Program:

The program this month was presented by General Roper from the Air Force Academy. He is currently serving as Dean and has been in the past served as a Program Manager for Over-The-Horizon-Backscatter Radar (OTHB). His talk on OTHB was very interesting and he pointed / stressed that it is set up so as not to interfere with amateur transmissions.

The meeting was adjourned at 2130.

The next meeting will be 11 Apr 89.

## Minutes of the MAB Board Meeting

submitted by Al NØCMW

The Board meeting was held on 13 Mar 89 at the QTH of Ron NKØP. In attendance were Ron NKØP, Jim WA9ABB, Keith NYØT, Al NØCMW, Bud NØDDF, Doug NØHJT, Oak KØROL, Max KDØEL and Chris NXØB.

Max KDØEL brought up the idea of having a Saturday picnic during the Field Day weekend. This was accepted by the Board and Max was authorized to spend \$100.00 for this effort. He will be seeking someone to head up this effort at the next Club Meeting.

Keith NYØT reported that Mike KØTER has volunteered to be the Club's representative for the combined picnic to be held at the Air Force Academy on 6 Aug 89. This is a joint effort of the PPRAA and the PPFMA. \$150.00 has been allocated to support

this activity. Mike will get together with Bud WBØTIB to iron out the details.

Oak KØROL, just fresh back from the CCARC meeting in Greeley, gave highlights of the meeting. In particular, he spoke of the CCARC repeater maps for voice and packet radio. Consequently the Board authorized the Treasurer to purchase 100 of these maps and they will be in-turn sold at the next couple of Club Meetings. In addition, the CCARC is responsible for repeater pair/frequency coordination and those desiring a frequency pair are to contact Whit Brown 14414 W. Ellsworth Place, Golden, CO, 80401. Don't assume that a frequency pair is vacant due to no activity on it.

Bud NØDDF stated that he will investigate the refurbishing of the printing plates to get amateur radio signs made up and he was authorized \$50.00 to pursue this effort.

As a result of his recent visit to Air Force Academy and his desire to receive information about the Club through the newsletter, Senator Barry Goldwater K7UGA was made an honorary of the PPRAA.

As the AFA will be letting the Club use their Picnic facilities for the Club Picnic, all members of AFA radio clubs are cordially invited to participate with the PPRAA and the PPFMA.

Chris Smith NXØB will be taking over as the new #Beat editor when Keith NYØT leaves. He will need a volunteer to handle distribution of #Beats when published as he will be readily available to do so.

There being no further business, the meeting adjourned at 2100 hrs. The next Board meeting will be at the QTH of Bud NØDDF.

## AFA RADIO CLUB

### MINUTES

The AFA Radio Club meeting was held 07 Mar 1989 at 1130 hrs at the rec center lunch area. Present were Floyd KB5FCN, Faylene KB5FTN, Doug NØHJT, Al NØCMW, Jim WA9ABB and Keith NYØT. There will be a Volksmarch in May and Doug will get a hold of Mike KØTER of the PPRAA to work with them on this. The treasurer reported that there is \$42.00 in club funds. The Club had a guest in the name of Col Schleeter, a prospective Novice. There being no further business, the meeting was adjourned at 12:30. The next meeting will be Tuesday at 11:30 at the rec Center on Apr 10. Submitted by Al NØCMW.

### MILEY'S RADIO

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#### Hamfest Schedule:

4/28, 29, 30	Bean Feed, Las Cruces, NM
5/6, 7	Sierra Vista, AZ
5/20	Colorado Springs, CO
5/28	Gateway parking lot Denver???
6/10	Loveland, CO
7/1	Grand Junction, CO
7/8, 9	Cheyenne, WY
7/15, 16	East Glacier, MT
7/22, 23	Woodland Park, CO
7/30	RMRL — Jeffco Fairgrounds, Denver
8/12, 13	Amarillo, TX
8/27	Gateway parking lot???
9/2, 3	Alamogordo, NM
9/10	Camp-Out Laramie, WY
9/15, 16	Wichita Falls, TX
9/23	Santa Fe, NM
10/1	Lubbock, TX
11/4, 5	Odessa, TX
12/2, 3	Apache Junction, AZ

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73's — Jess

4/89

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PPRAA is not associated with the Pikes Peak FM Association.